

STORAGE VIRTUALIZATION SYSTEM AND METHODS

ABSTRACT OF THE DISCLOSURE

Storage virtualization systems and methods that allow customers to manage storage as a utility rather than as islands of storage which are independent of each other. A demand mapped virtual disk image of up to an arbitrarily large size is presented to a host system. The virtualization system allocates physical storage from a storage pool dynamically in response to host I/O requests, e.g., SCSI I/O requests, allowing for the amortization of storage resources through a disk subsystem while maintaining coherency amongst I/O RAID traffic. In one embodiment, the virtualization functionality is implemented in a controller device, such as a controller card residing in a switch device or other network device, coupled to a storage system on a storage area network (SAN). The resulting virtual disk image that is observed by the host computer is larger than the amount of physical storage actually consumed.

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